

United States Department of Agriculture

DIVISION OF AGROSTOLOGY,

[Grass and Forage Plant Investigations.]

U. S. Department of Agriculture

NEW OR LITTLE KNOWN GRASSES.

The following descriptions are of new or little known species of grasses which have appeared in recent collections from several sources and their publication as a circular of this Division is recommended. The notes on *Danthonia intermedia* are by the late Prof. Thomas A. Williams, and were made just before his death.

Setariopsis latiglumis (Vasey) Scribn. Field Columb. Mus. Bot. Ser. 1:289.

Pl. XI. December, 1896 (*Setaria latiglumis* Vasey, Bul. Torr. Bot. Club, 13:229. 1896).

Culms 1 m. high; nodes bearded with erect, appressed hairs; sheaths, at least the lower ones, papillate-pilose, long-hairy at the throat; leaves thinly hairy or pilose on the upper surface, the lower ones pilose on the back, at least towards the base which is long dentate; the broader leaves 1.5 to nearly 2 cm. wide, long-acuminate-pointed and gradually tapering to a very narrow base. Panicle about 30 cm. long, rather densely flowered; branches erect, appressed, the lower ones 4-5 cm. long.

This description is drawn from No. 8412. C. G. Pringle, 1900, collected in Iguala, Guerrero, Mexico. Pringle's specimens are much more robust and coarser than the type, No. 117a, E. Palmer, 1885. In Palmer's plants the leaves are 5-10 mm. wide, and the comparatively few-flowered panicles 6-10 cm. long. The spikelets, however, in Palmer's plant are somewhat larger than those in the specimens above described. There is such a close resemblance, however, in the character of the essential parts that I must regard them as representing a single species.

ICHNANTHUS APICULATUS Scribn. sp. nov.

A slender, wiry, ascending perennial, more or less extensively creeping and rooting at the lower joints, with flat, lanceolate, acute leaves 3-8 cm. long, and loosely flowered, spreading panicle 14-20 cm. long, the base partially included or barely exerted from the uppermost leaf sheath. Culms striate, glabrous or with a pubescent line along one side; nodes finely and shortly pubescent; sheaths striate, ciliate along the margin, papillate-pilose towards the apex and pubescent at the summit on the back, where it is somewhat contracted; ligule very short, the margin shortly and finely ciliate; leaf blade 4-8 mm. wide, rounded at the base and gradually tapering from near the middle to the very sharply acute apex, sparingly papillate-pilose on both surfaces or nearly glabrous, margins minutely and sharply scabrous and with a few long hairs near the base; lower panicle branches ascending, 8-12 cm. long, the upper branches more spreading, gradually becoming shorter. Spikelets on rather slender pedicels, often in pairs—one short pedicellate, the other supported on a longer pedicel—oblong-ovate in outline, 3-3.5 mm. long, about 0.5 mm. broad, obtuse. Outer glumes prominently nerved, glabrous—the first, 3-nerved, obtuse, two-thirds to three-fourths as long as the spikelet;

second and third glumes 5-nerved, broadly ovate, oblong, obtuse, minutely pubescent at the apex, slightly exceeding the fourth or flowering glume, which is about 2.5 mm. long, contracted at the base and depressed on the back, the obtuse and somewhat hooded apex shortly apiculate. Palea glabrous, about as long as the glume which it resembles in color and texture.

Type specimen from near Jalapa, State of Vera Cruz. C. G. Pringle, No. 9208, May 13, 1900. Allied to *Ichnanthus lanceolatus* Scribn., from which it is at once distinguished by its narrower, sessile leaf blades, more obtuse and somewhat shorter spikelets, and distinctly apiculate fourth glume.

Agrostis nana (Presl) Kunth, Enum. 1: 266. 1833. (*Tricodium nanum* J. S. Presl in C. B. Presl Reliq. Haenk. 1: 243. 1830.) On cliffs near Fort Bragg, Mendocino County, Cal., No. 6159, Jos. Burt Davy and Walter C. Blasdale.

The type locality of this species is doubtfully given by Presl as Peru. The original specimens might, however, have come from the California coast, where Haenke also made collections. *Agrostis nana* Kunth, as represented by specimens in the herbarium of the Missouri Botanical Garden and illustrated by figure 2, plate 34, in the Tenth Annual Report of Missouri Botanical Garden, is a much smaller plant than that collected by Davy and Blasdale; but the habit of growth, and size and character of the spikelets are identical, and the very full description given by Presl applies so closely to our plant that there can be little doubt of its identity. The characters of the Mendocino plant are as follows:

A densely caespitose, wiry, glabrous perennial 1-2 dm. high, with involute filiform leaves and strict, few-flowered panicles 2-4 cm. long. Ligule 1.5 mm. long, cleft in three divisions, the lateral divisions auriculate. Leaf-blades of the culm about 2 mm. wide. The axis of the panicle and the closely appressed branches are 1 cm. long or less, strongly scabrous. Spikelets on short, rigid, appressed, scabrous pedicels; outer glumes nearly equal or the first a little longer than the second, about 3 mm. long, scabrous on the back, especially along the keel, broadly lanceolate and acute; flowering glumes about 1.8 mm. long, oblong truncate, and erose dentate at the apex, awnless or very short-awned just above the middle. Palea minute or wanting, callus short, obtuse.

The only manifest difference between our plant and that of Presl is in the vegetative characters which are most likely to vary.

Agrostis pringlei Scribn., U. S. Dept. Agr. Div. Agros. Bul. 7: 156, fig. 138. 1897. Along cliffs at Point Arena, Mendocino County, Cal., No. 6030, Davy and Blasdale. 1899.

These specimens represent a multi-branched form of the species, with panicles more densely flowered than in the type, but the essential characters of the spikelets, root habits, and foliage are those of *Agrostis pringlei*. This species is remarkable for the long hairs at the base of the floret. These hairs are 1-2 mm. long.

AGROSTIS VIRESCENS MICROPHYLLA (Steud.) Scribn. n. comb. (*Agrostis microphylla* Steud. Syn. Pl. Gram. 164. 1854). Dry places in meadows near Sherwood Valley, Mendocino County, Cal., No. 5142, Davy and Blasdale, 1899.

Culms very slender, 1-1.5 dm. high, apparently annual. Leaves 1-2 cm. long; ligule about 2 mm. long. Panicle densely flowered, 1-3 cm. long, purplish. Empty glumes lanceolate, scabrous, long acuminate, subulate pointed; the first 3.5-4 mm. long, little exceeding the second; flowering glumes 1.5 mm. long, scarcely one-half the length of the outer glumes, awned on the back near

the middle. Apex bifid, each division minutely two-toothed by prolongation of the lateral nerves. Awn ascending from near the middle of the glumes on the back, 4-4.5 mm. long, rather stout below, geniculate and projecting beyond the glumes.

While these plants are very much smaller than *Agrostis virescens* H. B. K., the differences are in the vegetative rather than in the essential characters. *A. virescens* in the typical form is 20-54 cm. high, with a more open panicle, longer and broader leaves, but the spikelet characters of the variety here noted, are so closely identical with those of the species that the plant can not be regarded as representing anything more than a variety. Specimens here described have the appearance of being annuals or seedlings, and this may account for their diminutive size.

AGROSTIS DAVYI Scribn. sp. nov.

A rather slender, erect, or ascending perennial, 6-9 dm. high, with narrow, scabrous leaves and loosely flowered, narrow panicles 1-2 dm. long. Culms and sheaths scabrous, ligule about 10 mm. long, hyaline, scabrous on the back, at least below, decurrent. Leaf-blades 8-18 cm. long, 3-6 mm. wide, scabrous on both sides. Spikelets 3.5-4 mm. long, outer glumes lanceolate, acuminate, very acute, scabrous on the back, especially along the keel, nearly equal; flowering glumes about 3 mm. long, oblong, truncate, 5-nerved, lateral nerves projecting as very short teeth or setae, the mid-nerve usually excurrent at or above the middle as a short, slender, inconspicuous bristle. Callus hairy on the sides, the hairs 1-1.5 mm. long.

In brush on hillsides near Point Arena, Mendocino County, Cal., No. 6062 Davy and Blasdale. May-August, 1899.

The spikelets of this species closely resemble those of *Agrostis pringlei* Scribn., and this resemblance is carried to the remarkably long callus hairs, but in other respects the species are very distinct. The culms in *Agrostis davyi* are simple, and much taller, and the panicles longer and more loosely flowered.

STIPA LEMMONI (Vasey) Scribn. n. comb. (*Stipa pringlei* var. *lemmoni* Vasey, Contr. U. S. Nat. Herb. 3:55. 1892). Near Harris, Humboldt County, Cal., No. 5348, Davy and Blasdale; dry rocky slopes, Long Valley, No. 5287, Davy and Blasdale.

A rather slender, rigid perennial 4-6 dm. high, with narrow, involute leaves and strict, few-flowered panicles 10-12 cm. long. Culms glabrous; sheaths striate, glabrous, shorter than the internodes. Ligule 1.5 mm. long, rounded-obtuse, entire, decurrent. Leaves 2-3 mm. wide, 5-10 cm. long (those of the innovations longer and narrower), glabrous beneath, pubescent and strongly striate above, closely involute when dry, divergent at the apex. Panicle branches erect, the longer lower ones in twos and threes, 2-3 cm. long, few-flowered. Spikelets rather large and pale green or straw-colored; empty glumes nearly equal, about 12 mm. long, broadly lanceolate, long acuminate-pointed, 3-5-nerved, scarious excepting the nerves; flowering glume oblong, about 7 mm. long, obtuse, 2-toothed at the oblong apex, thinly pilose all over with appressed hairs. Callus broadly obtuse, shortly bearded. Palea broad, nearly as long as the glume, and similarly hairy. Anthers naked.

This grass has been referred to *Stipa viridula*, but it is very distinct from that species in its larger spikelets, longer palea, fewer-flowered panicles, fewer, shorter, and narrower leaves. In addition to the above-cited specimens, this species is represented in the National Herbarium by specimens from West Klickitat County, Columbia River, Washington, No. 146, W. N. Suksdorf, May 16, 1885, and the type No. 5456, J. G. Lemmon, Mohawk Valley, Plumas County, Cal., May, 1889.

STIPA LEMMONI JONESII var. nov. A small form of the species with rather more slender culms and panicles, and spikelets, with the outer glumes 7-8 mm. long and flowering glumes about 6 mm. long. This variety is represented in the National Herbarium by Nos. 3563, L. Schoenfeldt, collected at Laguna, Cal., June 4, 1894; 49, J. W. Blankinship, collected at Mount San Hedrim, Mendocino County, Cal.; 3298, Marcus E. Jones, collected at Emigrant Gap, Cal., June 28, 1882 (type). There is also a specimen from Mariposa County, Cal., collected by J. W. Congdon, June 4, 1897.

BOUTELOUA PRINGLEI sp. nov.

A rather slender, apparently caespitose and erect perennial 10-14 dm. high, with flat, pilose leaves, and many, usually spreading or reflexed spikes scattered along the common axis forming a somewhat one-sided raceme 10-30 cm. long. Culms and nodes glabrous, sheaths papillate-villous, at least above, with long, lanate hairs; lower portion of the sheaths usually glabrous; ligule very short. Upper surface of the leaves strongly papillate-pilose along the nerves, less strongly so on the under surface. Spikes 30 to 50 or more, approximate along the common axis, the lower ones somewhat remote, axis of spikes 0.5-3 cm. long, bearing 6-20 spikelets, apex more or less deeply cleft, the divisions subulate; these axes sometimes branched again, the secondary axes bearing 2-3 spikelets. Spikelets 4-5 mm. long; outer glumes very unequal, the first nearly subulate, 3-4 mm. long, the second lanceolate-oblong, 4-5 mm. long, short-awned at the apex, silky hairy on the back, strongly 1-nerved, hairs 1 mm. long or more; flowering glumes nearly 4 mm. long, 3-nerved, 3-toothed at the apex, the teeth about equal in length, the lateral ones awn-like, rather densely pilose hairy on the back, especially along the margins. Palea as long as its glume, 2-toothed, finely pubescent on the back. Rudiment very small, usually reduced to a mere pedicel. Mountains of Iguala, Mexico, No. 8374, C. G. Pringle, 1900.

This species is very closely allied to *Bouteloua curtispindula*, from which it is at once distinguished by its densely villous-hairy sheaths, and pilose outer and floral glumes.

BOUTELOUA HIRTICULMIS Scribn. sp. nov.

An erect or ascending, caespitose perennial, 4-6 dm. high, with long leaves, hirsute culms, and 2 to 4 spreading, often reflexed, densely flowered purple spikes 3-5 cm. long. Culms simple, striate, very densely hirsute below with spreading hairs, about 2 mm. long, the upper portion of the culm glabrous or nearly so; nodes bearded with few short appressed hairs, or nearly glabrous; sheaths usually shorter than the internodes, striate glabrous, or the lower ones, which are crowded, with few scattered hairs; ligule a very short ciliate ring; leaf-blades linear, firm, 1-2.5 dm. long, 3-4 mm. wide, glabrous beneath, usually with few scattered papillate hairs on the upper surface, scabrous on the margins. Panicle exserted, axis sparingly pilose; spikes with the short strongly-bearded pedicels, the rachis continued beyond the spikelets, the continuation 1.5-2 cm. long, awn-like. Spikelets numerous, crowded; empty glumes lanceolate, acuminate, the first thin, smooth, about 3 mm. long, the second about 5 mm. long, with a row of dark or black glands on each side of the mid-nerve, each emitting a long hair; flowering glume pilose with appressed scattered hairs, about 5 mm. long, 3-lobed, the lobes awn-pointed, the middle one 3 mm. long, the lateral ones about 2 mm. in length; sterile rudiment on a short pedicel, naked, consisting of three imperfect glumes and three scabrous awns.

Type specimen collected in the Sierra de San Francisquito Mountains, Lower California, No. 11 T. S. Brandegee, September 29, 1899; same locality, No. 30 T. S. Brandegee, October 18, 1890.

The following specimens are also referable to this species, although they differ in several minor respects from the type: Chipias, Mexico, No. 3121 (in part) E. W. Nelson, September, 14, 1895; Oaxaca, No. 1259 E. W. Nelson, September 28, 1894; Mexico, No. 201, E. Palmer, 1896.

This species is closely related to *Bouteloua hirsuta* (H. B. K.) Lag., but is at once distinguished by its usually greater size, more numerous spikes, longer leaves, and especially by its densely hirsute culms.

DANTHONIA AMERICANA Scribn. nom. nov. (*Danthonia grandiflora* Philippi, Anal. Univ. Chil. 568 (1873). Not Hochst. ex. A. Rich. Tent. Fl. Abyss. 2:418. 1851.

A slender, densely caespitose perennial 2-4 dm. high, with short, slightly inflated sheaths, narrow mostly involute leaves and simple panicles of 1-4 large spikelets. Culms and nodes very smooth; sheaths much shorter than the internodes, pilose-pubescent, at least the lower ones, long bearded at the throat; culm leaves 3-7 cm. long, 1-2 mm. wide, mostly involute, the lower ones sparingly pilose; leaves of the innovations involute-filiform, 8-10 cm. long, pilose with long spreading hairs. Axis of the panicle and pedicels puberulent. Spikelets 12-18 mm. long; empty glumes as long as or slightly exceeding the florets, lanceolate-acuminate, the narrowed apex obtuse, 7-9 nerved; flowering glume exclusive of the awn and teeth 6-8 mm. long, rounded and glabrous on the back, densely silky villous along the margins from just above the base to a little above the middle, the hairs crowded in little tufts, broadest above the middle, abruptly 2-toothed, teeth very slender, bristle-form 4-6 mm. long; callus narrow, about 1 mm. long, barbate, the hairs from 0.5 to nearly 2.5 mm. long; awn very slender, twisted below, 7-9 mm. long. Palea rather broad, about 6 mm. long, shortly ciliate on the keels.

This species is distinguished from *D. unispicata* with which it has been confounded, by its shorter and narrower leaves, the presence of 2-3 or more spikelets in each culm, comparatively shorter and less acuminate outer glumes, broader and more abruptly acuminate flowering glumes, the teeth of which are much longer and more slender, and in the more abundant hairiness of the flowering glumes.

SPECIMENS EXAMINED: *California*: Walkers Valley, Mendocino County, May 25, 1899, "very abundant," No. 5038 J. Burt Davy; Kawah meadows, Tulare County, altitude 9,300 feet. No. 5247 C. A. Purpus. In this specimen the spikelets are only 10 mm. long; Silver Lake, Amador County, Hansen, June 30, 1899. *Oregon*: Cougar Peak, August 8, 1896, No. 189 Coville and Leiberg. *Washington*: Falcon Valley, in low grounds, July 2, 1885, No. 150 W. N. Suksdorf. In these specimens the outer glumes are 18 mm. long, a little longer than in the type and the callus hairs are a little longer but the plants are otherwise the same. Near Montesano, Chehalis County, June 8, 1898, No. 3908 A. A. and E. Gertrude Heller. There is also a specimen in the National Herbarium from Washington, collected by Suksdorf in 1880. *Canada*: Crevices of rocks, Nanaimo, Vancouver Island. No. 39 J. Macoun, June 13, 1887. *Chile*: Province of Nuble, No. 256 Herb. Philippi.

DANTHONIA THERMALE Scribn. sp. nov.

A rather slender, erect, densely caespitose perennial with narrow, more or less pilose leaves and densely few-flowered panicles 3-5 cm. long. Sheaths, at least the lower ones, papillate pilose; ligule a dense fringe of short hairs, those near the margin 2-3 mm. long. The lower leaves, especially those of the innovations conspicuously pilose, the upper surface rather densely hairy. Branches of the panicle 1-2-flowered, erect, pedicels scabro-pubescent. Outer glumes nearly equal, 12-13 mm. long, 3 mm. wide, 5-7-nerved, apex acute;

flowering glumes, including the very sharp-pointed or subulate teeth, 5 mm. long, thinly pilose, hairy on the back, more densely so on the margin. Cal-lus with a few short hairs. Awn about 7 mm. long. Teeth at the apex of the flowering glume subulate, 1.5-2 mm. long.

Type specimen No. 6140, Aven Nelson and Elias Nelson, collected on the dry slopes about the geyser formations in Norris basin, Yellowstone Park, July 25, 1899. Same locality, No. 169 E. D. Merrill, August, 29, 1900. Other specimens examined, apparently belonging to this species, are No. 307, Williams and Griffiths, collected near the edge of Lolo Hot Springs, Montana, September 17, 1898. This is a small form, 12-24 cm. high. No. 449, David Griffiths, collected in abundance in ravines near Sundance, Bear Lodge Mountains, Wyoming, August 9, 1897; No. 896, David Griffiths, Sundance, Bear Lodge Mountains, Wyoming, 1898; No. 982, David Griffiths, collected in clearings in parks, Bear Lodge Mountains, Sundance, Wyoming, July 21, 1898.

This species is most closely related to *Danthonia spicata* of the East, from which it may be distinguished by its more rigid and erect habit, larger spikelets, broader and more conspicuously nerved empty glumes, and larger flowering glumes, the teeth of which are much prolonged and subulate pointed. The flowering glumes are also much more conspicuously hairy above on the back and margins.

In the latter part of August, 1900, I found this grass growing on geyser formations in the Norris basin, doubtless in the same locality as that from which the type was collected. It grew in scattered tufts in the white shelly deposits close to the geyser, where one would scarcely expect to find any vegetation at all, and, in fact, where there was little else than this grass to be found. The specimens from Montana, above cited, were collected within two feet of Lolo Hot Springs. The differences in the spikelets between this plant and *Danthonia spicata* of the East, together with the geographical range and peculiar habitat, are our reasons for distinguishing it as a species.

***Danthonia intermedia* Vasey.**

This species was described by Dr. Vasey¹ from specimens collected at Mount Albert, Lower Canada, July 26, 1881, by O. D. Allen, and the original description reads in part as follows:

“Radical leaves, 6 to 10 inches long, narrow; cauline leaves, 2 to 6 inches, pubescent, especially on the sheaths.”

The material in the National Herbarium shows wide variation in the character of the pubescence. In the type specimen the long white hairs are but sparsely scattered on the sheaths and under surface and margins of the leaves. In other specimens (Griffiths, 486, and Henderson, 3064b) the pubescence is dense and shaggy, while on the other hand specimens not otherwise distinguishable (Henderson, 1315, 3064a; Williams, 2770) are quite destitute of hairs, except at the throat of the sheaths and on the leaves of the sterile shoots, and in the latter instance they are very scattering and easily overlooked. The species also varies considerably in the width of the leaves and size of the spikelets.

SPECIMENS EXAMINED: *Canada*: Mt. Albert, O. D. Allen, July 26, 1881; (type) No. 16 and 31, J. Macoun, August 26 and 27, 1882; mountains north of Griffin Lake, British Columbia, 46a, J. Macoun, August 5, 1899; Milk River Ridge, Alberta, No. 13070, J. Macoun, July 19, 1895; head of Qu'Appelle, Great Plains, No. 120, J. Macoun, July 11, 1879.

Washington: Stevens Pass, Cascade Mountains, No. 760, Sandberg & Leiberg, August 16, 1893; Loomiston, No. 553, A. D. E. Elmer, August, 1897.

¹ Bul. Torr. Bot. Club. 10: 52. 1883.

Oregon: Mt. Hood, No. 1315, L. F. Henderson, August 24, 1884.

California: No. 6104, H. N. Bolander; No. 1866, J. G. Lemmon, Tuolumne River, Yosemite National Park, August, 1897.

Idaho: Beaver Canyon, No. 302, C. L. Shear, June 27, 1895, and No. 2057, P. A. Rydberg, June 27, 1895; De Smet Mission, Coeur d'Alene Mountains, No. 1008, J. B. Leiberg, June 21, 1895; Salmon River near Petit Lake, No. 3568, L. F. Henderson, July 30, 1895; without locality, Nos. 3064a and b, L. F. Henderson, 1895, representing both the smooth (No. 3064a) and the hairy (3064b) forms of the species.

Montana: Lower basin, Gallatin River, J. W. Blankinship, July 8, 1898.

Wyoming: Crazy Woman Creek, Big Horn Mountains, No. 2770, T. A. Williams, August, 1897; Bear Lodge Mountains, near Sundance, No. 486, D. Griffiths, August 10, 1897.

Colorado: No. 404, J. Wolf, 1873; Silverton; No. 1241, C. L. Shear, August 6, 1897; Red Dirt Divide, Steamboat Spring Road, Routt County, No. 1354, Shear & Bessey, July 31, 1898.

The grass is usually found in rather dry meadows and on mountain sides, reaching an elevation of over 3,000 m. towards the southern limits of its range and descending to 700 m. toward the northern limits.

DANTHONIA INTERMEDIA CUSICKII T. A. Williams, var. nov.

Distinguished from the type of the species by its larger size, longer, flatter, softer, less scabrous leaves quite destitute of pubescence, except occasionally on the younger leaves of the sterile shoots, loose, glabrous, shining sheaths, rather larger spikelets and usually more open panicle.

Type specimen No. 2427, Wm. C. Cusick, Oregon, 1899, growing in partial shade at an altitude of about 1200 m. Other specimens referable to this variety are No. 2047, Cusick, head of Dirt Creek, Southern Blue Mountains, Oregon, July 19, 1898; No. 2244, P. A. Rydberg, Mystic Lake, Montana, July 25, 1895; No. 586, C. L. Shear, and No. 2338, P. A. Rydberg, Beaver Canyon, Idaho, August 7, 1895.

This form apparently grows in moister situations than the species.

DANTHONIA SPICATA LONGIPILA Scribn. & Merrill, var. nov.

A slender form, 3 to 4 dm. high, with small, few-flowered panicles and smaller spikelets than in the species. Leaf blades very narrow, involute, pilose throughout with scattered ascending hairs about 2 mm. in length. Basal leaves 1 to 2 dm. long, those of the culm shorter. Empty glumes slightly unequal, the first 8 to 9 mm. long, the second about 1 mm. shorter. Flowering glumes 2 to 2.5 mm. long, pilose.

Type specimen collected in Benton County, Arkansas. No. 38, E. N. Plank. Nos. 40, 62, and 97, Plank, from the same locality, are the same. This variety is distinguished from the species by its smaller spikelets and pilose leaves.

DANTHONIA EPILIS Scribn. nom. nov. *Danthonia glabra* Nash, Bul. Torr. Bot. Club, 24: 43. 1897. Not *Danthonia glabra* Philippi Anal. Univ. Chile, Pl. Neuv. Chilenas, 94:30. 1896.

DESCHAMPSIA CURTIFOLIA Scribn. nom. nov. *Deschampsia brachyphylla* Nash, Mem. N. Y. Bot. Gard. 1:37. 1900. Not *Deschampsia brachyphylla* Philippi Anal. Univ. Chile, Pl. Neuv. Chilenas, 94:23. 1896; *Deschampsia brevifolia* R. Br. App. Parry's Voy. 291. 1821. Not *Aira brevifolia* Bieb. Fl. Taur. Cauc. 3:63. 1819.

CALAMAGROSTIS PERPLEXA Scribn. nom. nov. *Calamagrostis nemoralis* Kearney U. S. Dept. Agr. Div. Agros. Bul. 11:26. 1898. Not *Calamagrostis nemoralis* Philippi Anal. Univ. Chile, Pl. Neuv. Chilenas 94:18. 1896; *C. Porteri* of Vasey, Dudley Cayuga Fl. 125. 1886. Not A. Gray.

CALAMAGROSTIS LUCIDA Scribn. nom. nov. *Calamagrostis laxiflora* Kearney U. S. Dept. Agr. Div. Agros. Bul. 11: 34. 1898. Not *Deyeuxia laxiflora* Philippi Anal. Mus. Nac. Chile Bot. 84. 1891; *Calamagrostis laxiflora* Philippi Anal. Univ. Chile Pl. Neuv. Chilenas 94: 18. 1896.

Agrostis pseudointermedia Farwell, Ann. Rept. Com. Parks and Boulevards, Detroit, Mich., 11: 46. 1900. *Agrostis intermedia* Scribn. Tenn. Agr. Exp. Sta. Bul. 7²: 76. 1894. Not *Agrostis intermedia* Balb. Elenco, 85. 1802.

TRisetum SHEARII Scribn. nom. nov. *Trisetum argenteum* Scribn. U. S. Dept. Agr. Div. Agros. Bul. 11: 49. fig. 8, July 20, 1898. Not *Trisetum argenteum* R. & S., 1817, nor Schur 1860. Named for C. L. Shear, who collected the grass in Las Animas Canyon near Silverton, Colorado in 1897 (No. 1214).

MELICA IMPERFECTA PUBENS Scribn. var. nov. A slender form 9-12 dm. high with the sheaths and lower surface of the leaves below strongly pubescent with spreading or sometimes matted hairs.

Type specimen collected by T. S. Brandegee, No. 64, Santa Cruz Island, California, 1888.

MELICA CEPACEA (Phil.) new comb. (*Festuca cepacea* Phil. Linnæa 33: 297. 1864-65; *Melica acuminata* Bolander Proc. Calif. Acad. 4: 104 1870. Calif. and Chili.

PANICULARIA NERVATA PARVIGLUMIS Scribn. & Merrill, var. nov. A lax, glaucous grass 8-9 dm. high, with long thin leaves, open pale green panicles and very small spikelets. Leaf-blades 1-3 dm. long, about 5 mm. wide, thin, glaucous, scabrous above and on margins. Panicle 1-2 dm. long, the lower branches often 1 dm. long spreading or ascending. Spikelets 2-2.5 mm. long, generally about 1 mm. wide, 3-5 flowered; empty glumes thin, triangular, the first 0.5 mm. long, the second nearly 1 mm. long; flowering glumes about 1.3 mm. long, 0.5 mm. wide, obovate, obtuse, or truncate, strongly nerved.

Type specimen collected in rich low woods, Racine, Wisconsin, No. 36 S. C. Wadmond, June 26, 1900. The same form has also been collected on the county line, Racine County, by Mr. Wadmond, July 14, 1900. This variety is distinguished from the species by its smaller and more lax flowered and narrower spikelets, shorter and narrower flowering glumes.

○

F. LAMSON-Scribner,
Agrostologist.

Approved:
JAMES WILSON,
Secretary.